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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,969	09/06/2001	Randall S. Estep	79493-PCT	6639

24628 7590 04/18/2006

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EXAMINER

CHANG, KENT WU

ART UNIT PAPER NUMBER

2629

DATE MAILED: 04/18/2006

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**APR 18 2006**

**Technology Center 2600**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/914,969  
Filing Date: September 06, 2001  
Appellant(s): ESTEP, RANDALL S.

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Eric D. Cohen  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 3/23/06 appealing from the Office action  
mailed 10/13/05.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hales (US Patent No. 6,360,182) in view of Larson (US Patent No. 6,066,129) and Valley (US Patent No. 5,574,794).

Hales discloses an underwater diving mask for use by a diver in an underwater diving environment, the diving mask comprising: a viewing portion defined by the diver's face and a lens; a visual display device proximate the viewing portion to provide visual images to the diver; a computer system disposed in a portion of the mask and operatively coupled to the visual display device; operation control switches or other types of input devices (114, see column 9 lines 20-24, and Fig.3). Hales is silent in using a sound transducer inside the face mask and speech recognition system for data inputting.

However, Larson teaches using a speech recognition system for data inputting in a head-up display. The device of a Larson includes a speaking chamber to permit the

Art Unit: 2629

user to speak; a sound transducer (inherent from the microphone and the sound to signal converter) located proximal the speaking chamber; the computer system, the viewing portion and the speaking chamber; and the computer system receiving electrical signals produced by the sound transducer and configured to recognize and identify the electrical signals as spoken words of the user, the identified spoken words providing input to the computer; to direct the computer system to provide visual images to the visual display in response thereto to facilitate hands-free operation of the user (see column 14 line 40 to column 15 line 5). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to use a speech recognition system for data inputting (as recited in claims 1 and 6-8) as taught by Larson in the device of Hales so as to provide a fast, easy to operate, and hands-free input device as suggested by Larson. Furthermore, it would have been obvious for one ordinary skill in the art at the time of the invention to use a speech recognition system for data inputting as taught by Larson in the device of Hales since Hales suggests to use a keyboard or any types of known data input system in his device (see column 9 lines 20-24).

Valley further teach to house the sound transducer inside or outside of the face mask for converting voice signal to electronic signal, wherein the face mask having a water-tight speaking chamber configured to sealingly engage a portion of the diver's face including the diver's mouth (see column 1 lines 22-41 and column 3 lines 24-44). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to house the sound transducer inside or outside of the face mask in the

device of Hales as modified so as to clearly convert voice signal to electronic signal as suggested by Valley.

Consider claims 2 and 3. It would have been obvious for one of ordinary skill in the art at the time of the invention that the computer system in the diving mask of Hales as modified is operatively coupled to the display device by short length of cabling so that no external cabling extends from the diving mask in a region defined by the diver's head portion to a part of the diver located away from the diver's head, or such that no wiring or tether external to the diving mask is required so that the user is not obstructed by the display and the computer.

Consider claims 4 and 5. It would have been obvious for one of ordinary skill in the art at the time of the invention to use a sound transducer selected from the group consisting of a microphone, crystal microphone, piezoelectric transducer, throat/larynx transducer and vibration transducer; a computer system selected from the group consisting of a computer, microprocessor, RISC processor, single-chip computer, single-board computer, controller, micro-controller and discrete logic computer; a display device selected from the group consisting of a liquid crystal display, LED display, electro-fluorescence display, gas plasma display, prism-type optic display, prismatic projection system and cathode ray tube; a non-volatile storage operatively coupled to the computer system, the non-volatile storage selected from the group consisting of a ROM, PROM, EPROM, flash memory, optical memory, static memory, bubble memory, memory sticks and hard disk memory since it merely depends on the availability of the elements and the system configuration and cost requirement. It would

have been obvious for one of ordinary skill in the art at the time of the invention that any of the above elements would perform equally well.

Furthermore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include other well known methods for data inputting and computer operation such as menu selection, digital camera control applications, life support applications, general purpose applications, gyroscopic/inertial sensor applications, transmitter and receiver applications and power management applications as recited in claims 9-14 so as to enable the user to perform different task and provide more choices to the user to control the operation of the computer.

Claims 15-18 recite similar limitations as claims 1-14, thus note the rejections above.

#### **(10) Response to Argument**

In response to appellant's argument regarding the limitation of the types of computer system being used (see pages 9-10), the examiner indicates that there is no limitation in the independent claims 1, 15, and 18 claiming a fully functioning personal computer, one that can perform any specific functions such as spreadsheets, word processors, and **the like**, as argued by appellant on pages 9-10, to differentiate it from the device of Hales. Therefore, the device of Hales clearly meets the limitations as recites in claims 1, 15, and 18. However, since the device of Hales includes a microcomputer and data inputting for performing various functions including display control, data acquisition, data or program downloading, etc., it would have been obvious for one of ordinary skill in the art at the time of the invention to choose a portable

Art Unit: 2629

computer to perform any known functions of a fully functioning personal computer in the device of Hales. In fact, it has been known in the art that using voice data inputting could have further reduced the size of a computer by eliminating the need of other input devices such as a keyboard, but it would raise the manufacturing cost of the system.

In response to appellant's argument regarding the limitation of housing the transducer inside the face mask having a speaking chamber configured to sealingly engage a portion of the user's face including the user's mouth, note that Valley teach that it is known to house a sound transducer inside of the face mask for converting voice signal to electronic signal, wherein the face mask having a speaking chamber configured to sealingly engage a portion of the user's face including the user's mouth (see column 1 lines 22-41 and column 3 lines 24-44, note that Valley clearly pointed out that **it is critical to sealingly house the microphone inside of the mask "without leakage of the surrounding atmosphere into the mask"**). It should be noted that the rejections are based on the conventional method of housing the transducer inside the face mask having a speaking chamber configured to sealingly engage a portion of the user's face including the user's mouth as disclosed by Valley in the BACKGROUND OF THE INVENTION (see column 1 lines 22-41), rather than the improvement made by Valley to house the transducer outside of the face mask. Therefore, appellant's arguments that "securing the Valley microphone and assembly to the outside of the Hales driving mask" would not work (see pages 17-18) are moot.

The remainder of the pertinent topics for argument are present in the appropriate rejections above.



**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kent Chang



Conferees:

Sumati Lefkowitz



SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER

Amr Awad



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PRIMARY EXAMINER